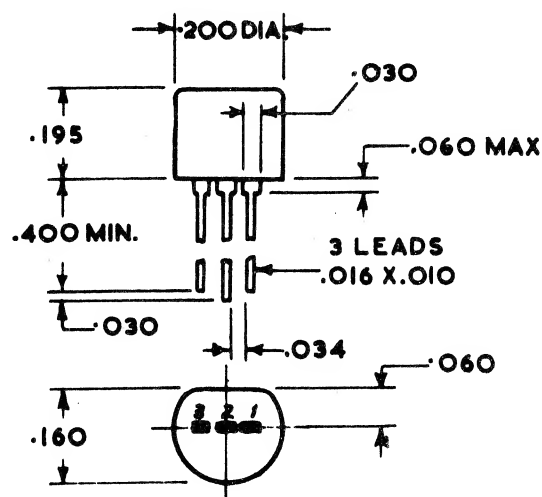




The AS303 is a silicon n-p-n planar transistor in an epoxy package, intended primarily for use in rf amplifier stages in T.V. and communication receivers. The type features low rf noise, high transition frequency, and low cutoff current.

## DIMENSIONAL OUTLINE



Dimensions in inches

ABSOLUTE MAXIMUM RATINGS

|   |             |
|---|-------------|
| Collector-base voltage                        | = 45 volts  |
| Collector-emitter voltage                     | = 45 volts  |
| (Base-emitter resistance<br>= 100K $\Omega$ ) |             |
| Emitter-base voltage                          | = 4.5 volts |
| Emitter current                               | = 50mA      |
| Base current                                  | = 25mA      |

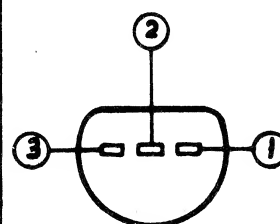
THERMAL RATINGS

Dissipation in an ambient temperature up to 25°C ----- 200mW max.  
Derate linearly to zero at 135°C.

During soldering lead temperature must not exceed 255°C for  
10 secs. max. within 1/16" of can.

Storage temperature -25°C to 135°C.

## TERMINAL DIAGRAM



Lead 1—Emitter  
Lead 2—Base  
Lead 3—Collector

AS303

### CHARACTERISTICS AT 25°C

[illegible]

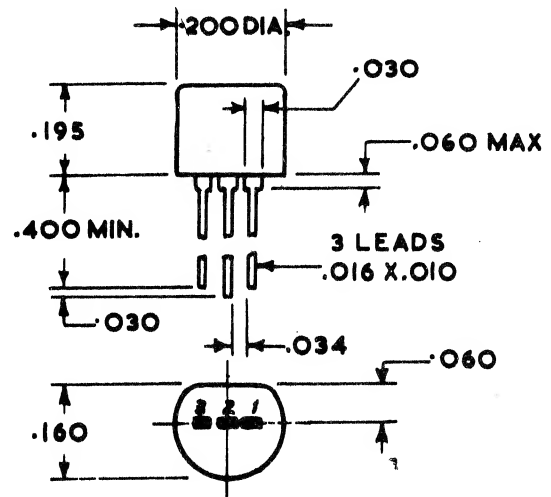


AMALGAMATED WIRELESS VALVE CO. PTY. LTD.

AS306  
AS304 AS307  
AS305 AS308

These units are n-p-n silicon planar transistors in an epoxy package for general H.F. and V.H.F. application. They are intended primarily for use in the tuner and if-amplifier circuits of vhf television receivers; and are also useful in communications equipment up to about 260 MHz. Types AS304 and AS305 are vhf types, for use as mixer and local oscillator respectively in TV tuners to 220 MHz. Types AS306, AS307, and AS308 are for use in 36 MHz TV if-amplifiers. These types feature high transition frequencies, and low cutoff currents.

#### DIMENSIONAL OUTLINE



Dimensions in inches

#### ABSOLUTE MAXIMUM RATINGS

|  |   |           |
|--|---|-----------|
| Collector-base voltage                     | = | 45 volts  |
| Collector-emitter voltage                  | = | 45 volts  |
| (Base-emitter resistance = 100K $\Omega$ ) |   |           |
| Emitter-base voltage                       | = | 4.5 volts |
| Emitter current                            | = | 50mA      |
| Base current                               | = | 25mA      |

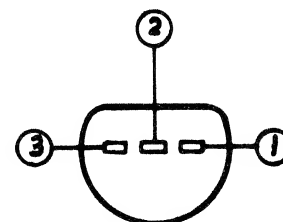
#### THERMAL RATINGS

Dissipation in an ambient temperature up to 25°C ----- 200mW max.  
Derate linearly to zero at 135°C.

During soldering lead temperature must not exceed 255°C for 10 secs. max. within 1/16" of can.

Storage temperature -25°C to 135°C.

#### TERMINAL DIAGRAM



Lead 1-Emitter  
Lead 2-Base  
Lead 3-Collector

AS305 AS308

### CHARACTERISTICS AT 25°C

[illegible]

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# CHARACTERISTICS AT 25°C

## Typical Input Characteristics

Common Emitter Circuit, Base Input  
Collector-to-emitter volts ( $V_{CE}$ ) = 10

AS303  
AS304  
AS305  
AS306  
AS307  
AS308

Fig. 1  
Input Capacitance  $C_{ie}$   
 $C_{ie}$  is constant within  
about 3% between  
 $V_{CE} = 5$  and  $V_{CE} = 15$

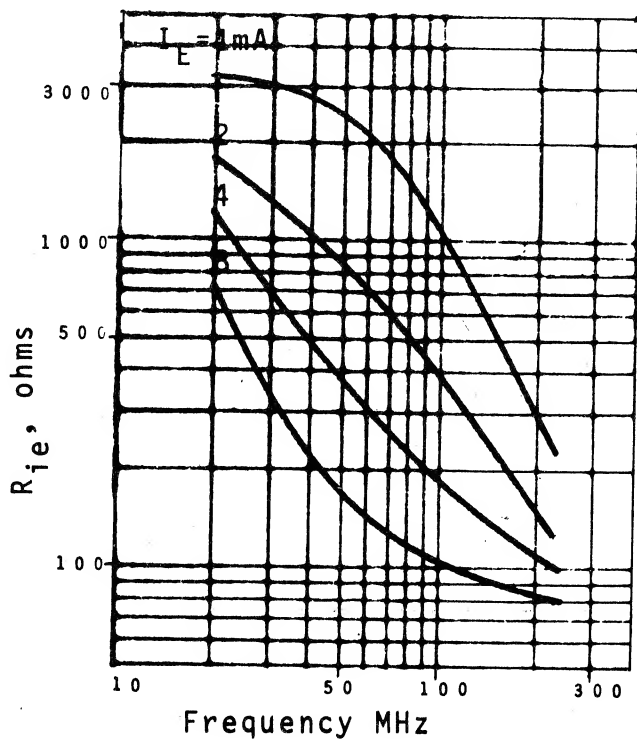
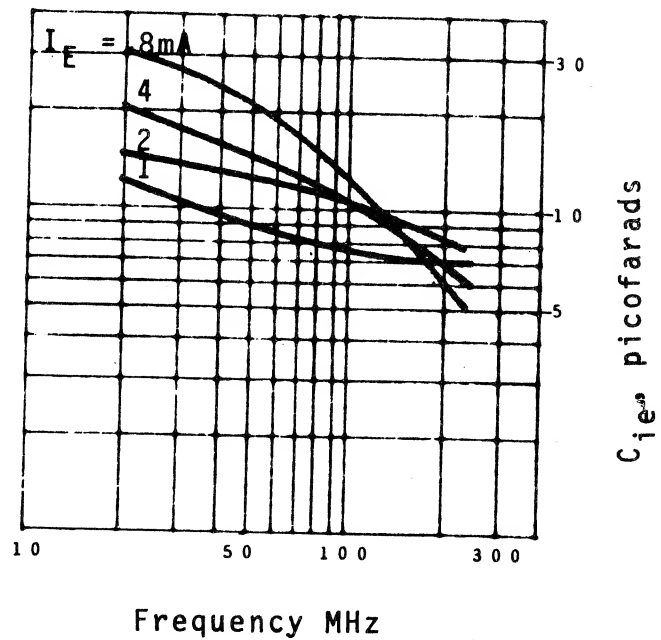


Fig. 2  
Input Resistance  $R_{ie}$   
 $R_{ie}$  increases about 2%  
per volt increase  
in  $V_{CE}$  between  
 $V_{CE} = 5$  and  $V_{CE} = 15$

# CHARACTERISTICS AT 25°C

## Typical Transconductance Characteristics

Common Emitter Circuit, Base Input  
Collector-to-emitter volts ( $V_{CE}$ ) = 10

AS303  
AS304  
AS305  
AS306  
AS307  
AS308

Fig. 3  
Tangent of Phase Angle,  $\phi$   
 $\tan \phi$  is constant within  
1% between  $V_{CE} = 5$  and  
 $V_{CE} = 15$ .

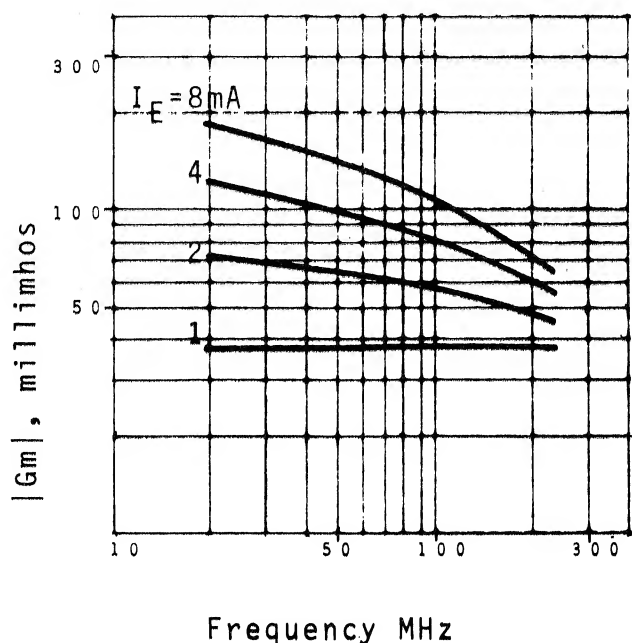
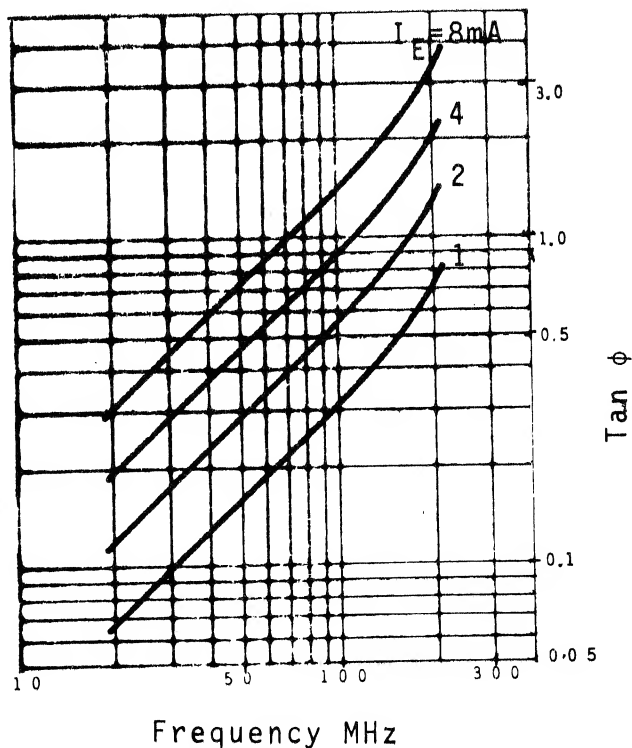


Fig. 4  
Absolute Magnitude of  
Transconductance,  $|G_m|$   
 $|G_m|$  falls about 0.4% per  
volt increase in  $V_{CE}$  between  
 $V_{CE} = 5$  and  $V_{CE} = 15$

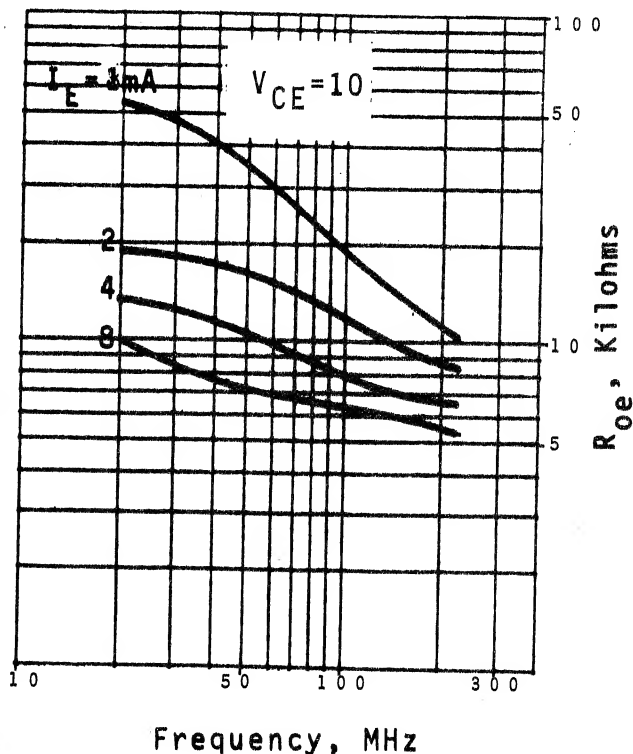
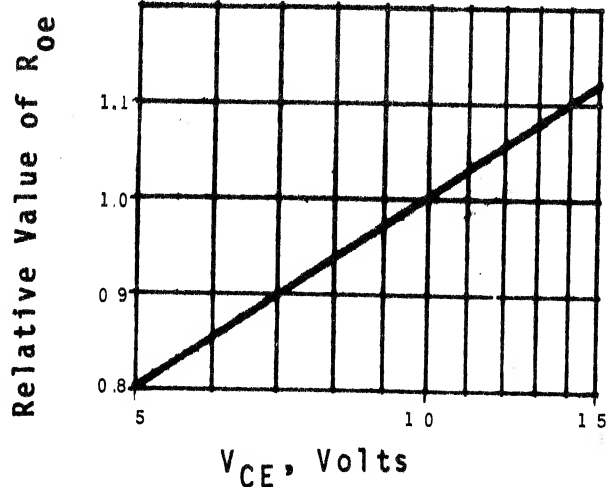
# CHARACTERISTICS AT 25°C

Typical Output and Feedback Characteristics  
Common Emitter Circuit, Base Input

AS303  
AS304  
AS305  
AS306  
AS307  
AS308

Fig. 5

Output Resistance,  $R_{oe}$   
 $R_{oe}$  varies with  
 $V_{CE}$  approximately as  
shown below:



Output Capacitance,  $C_{oe}$ :

$C_{oe}$  has typically the value 2.1 pF and is essentially independent of frequency,  $I_E$  and  $V_{CE}$ .

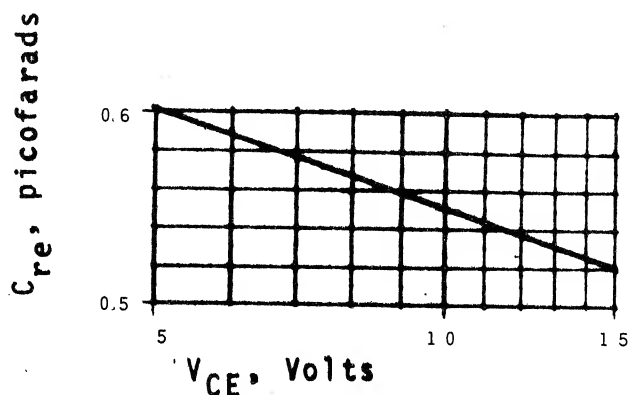


Fig. 6

Feedback capacitance,  $C_{re}$   
 $C_{re}$  is essentially independent  
of frequency and  $I_E$

AS303

AS304

AS305

AS306

AS307

AS308

### CHARACTERISTICS AT 25°C

### Y PARAMETER VALUES

[illegible]

With the Compliments of . . .

AMALGAMATED WIRELESS VALVE CO. PTY. LTD.

VICTORIA RD., RYDALMERE      PHONE: 638-0411

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